

## I. Amendments to the Claims

This listing of claims replaces without prejudice all prior versions, and listings, of claims in the application:

### Listing of Claims:

1. (Currently Amended) A cleaning apparatus for use in a fluid treatment system comprising a radiation source assembly, the cleaning apparatus comprising:

at least one cleaning sleeve in sliding engagement with the exterior of the radiation source assembly;

a first chamber disposed in the at least one cleaning sleeve in contact with a portion of the exterior of the radiation source assembly and for being supplied with a cleaning solution;

~~a second chamber disposed in the at least one cleaning sleeve adjacent the first chamber~~ a pair of annular second chambers on opposed sides of the first chamber and substantially surrounding the exterior of the radiation source assembly;

seal means to restrict movement of fluid between the first chamber and ~~the~~ each second chamber; and

drive means to translate the at least one cleaning sleeve along the exterior of the radiation source assembly.

2. (Original) The cleaning apparatus defined in claim 1, further comprising first drain means to withdraw fluid from the second chamber.

3. (Previously Amended) The cleaning apparatus defined in claim 1, further comprising second drain means to withdraw cleaning fluid from the first chamber.

4. (Previously Amended) The cleaning apparatus defined in claim 1, further comprising supply means to supply cleaning fluid to the first chamber.

5. (Previously Amended) The cleaning apparatus defined in claim 1, wherein the first chamber comprises a first annular chamber substantially surrounding the exterior of the radiation source assembly.

6. (Cancelled).

7. (Currently Amended) The cleaning apparatus defined in claim 1, wherein the pair of ~~second~~ annular second chambers are in communication with one another.

8. (Previously Amended) The cleaning apparatus defined in claim 1, wherein the seal means defines a barrier between the first chamber and the second chamber.

9. (Previously Amended) The cleaning apparatus defined in claims 1, further comprising second seal means disposed between the at least one cleaning sleeve and the exterior of the radiation source assembly.

10. (Previously Amended) The cleaning apparatus defined in claim 1, wherein the radiation source assembly comprises at least one radiation source disposed in a protective sleeve.

11. (Previously Amended) The cleaning apparatus defined in claim 1, wherein the protective sleeve comprises a quartz sleeve.

12. (Original) A fluid treatment device comprising a housing for receiving a flow of fluid, the housing comprising:

a fluid inlet;

a fluid outlet;

a fluid treatment zone disposed between the fluid inlet and the fluid outlet;

a radiation source assembly disposed in the fluid treatment zone for treatment of the flow of fluid; and

a cleaning apparatus comprising: at least one cleaning sleeve in sliding engagement with the exterior of the radiation source assembly; a first chamber disposed in the at least one cleaning sleeve in contact with a portion of the exterior of the radiation source assembly and for being supplied with a cleaning solution; a second chamber disposed in the at least one

cleaning sleeve adjacent the first chamber; seal means to prevent substantially unrestricted movement of fluid between the first chamber and the second chamber; first drain means to withdraw fluid from the second chamber; and drive means to translate the at least one cleaning sleeve along the exterior of the radiation source assembly.

13. (Original) The fluid treatment device defined in claim 12, wherein the cleaning apparatus further comprises first drain means to withdraw fluid from the second chamber.

14. (Previously Amended) The fluid treatment device defined in claims 12, wherein the cleaning apparatus further comprises second drain means to withdraw cleaning fluid from the first chamber.

15. (Previously Amended) The fluid treatment device defined in claim 12, wherein the cleaning apparatus further comprises supply means to supply cleaning fluid to the first chamber.

16. (Previously Amended) The fluid treatment device defined in claim 12, wherein the first chamber comprises a first annular chamber substantially surrounding the exterior of the radiation source assembly.

17. (Previously Amended) The fluid treatment device defined in claim 12, wherein the second chamber comprises a pair of second annular chambers on opposed sides of the first chamber and substantially surround the exterior of the radiation source assembly.

18. (Previously Amended) The fluid treatment device defined in claim 12, wherein the pair of second annular chambers are in communication with one another.

19. (Previously Amended) The fluid treatment device defined in claims 12, wherein the seal means defines a barrier between the first chamber and the second chamber.

20. (Previously Amended) The fluid treatment device defined in claim 12, wherein the cleaning apparatus further comprises second seal means disposed between the at least one cleaning sleeve and the exterior of the radiation source assembly.

21. (Previously Amended) The fluid treatment device defined in claim 12, wherein the protective sleeve comprises a quartz sleeve.

22. (Previously Amended) The fluid treatment device defined in claim 12, wherein the fluid treatment zone comprises a substantially elongate irradiation zone.

23. (Previously Amended) The fluid treatment device defined in claim 12, wherein the radiation source assembly comprises at least one radiation source disposed in a protective sleeve.

24. (Previously Amended) The fluid treatment device defined in claim 12, wherein the at least one radiation source is substantially elongate.

25. (Previously Amended) The fluid treatment device defined in claim 12, wherein the at least one radiation source is disposed substantially parallel to a flow of fluid through the irradiation zone.

26. (Previously Amended) The fluid treatment device defined in claim 12, wherein the at least one radiation source is disposed substantially transverse to a flow of fluid through the irradiation zone.

27. (Previously Amended) The fluid treatment device defined in claim 12, wherein the fluid inlet, the fluid outlet and the fluid treatment zone are arranged in a substantially collinear manner.

28. (Previously Amended) The fluid treatment device defined in claim 12, wherein the fluid inlet, the fluid outlet and the fluid treatment zone have substantially the same cross-section.

29. (Previously Amended) The fluid treatment device defined in claim 12,  
wherein the fluid inlet, the fluid outlet and the fluid treatment zone are arranged in a substantially  
non-collinear manner.